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COMPLETE SPECIFICATION

Improvements in and relating to the Elimination of Dazzle by Headlights of Road Vehicles

We, **RAYMOND HENRI PIERRE DEVAUX**, a citizen of France of 1, Quai Voltaire, Paris (Seine), France, and **OVIDIO FALASCHI**, a citizen of Italy of 2, Via Verona, Marina di Massa, Italy, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The serious dangers which are presented by travel by night owing to the dazzle that is due to the headlights when two motor cars pass each other is known. These dangers are such that a few metres before the cars pass each other, it is impossible to distinguish the obstacles which may be located on the route and even to estimate the available width of the roadway which would or would not allow the cars to pass each other.

This drawback has been reduced, but very imperfectly, by using a yellow light and a double-filament bulb for "headlight dipping," which, for the dipped position, give a luminous beam lowered towards the ground by displacing the luminous source from the optic focus.

This method presents, as regards the yellow light, the drawback of greatly reducing the illuminating power and, consequently, the visibility for the driver; as for the lowering of the luminous beam towards the ground, it is difficult, if not impossible, to obtain a correct regulation for obviating dazzle, because the position of the axes of the headlights depends upon the distribution of the loads on the car and upon the profile of the road. Thus, if the regulation is correct with two passengers in the front seats, this regulation will become "dazzle" if two or three additional passengers are taken on the back seats or if the boot is loaded or if the petrol tank is filled.

There is always the danger of dazzle at the top of a hill, for example, or if a driver puts his lighting into the "undipped" position at a very short distance before passing another car.

[Price 3s. 0d.]

The present invention resides in an anti-dazzle device for the headlights of vehicles, including a reflector and a lamp comprising an envelope and a source of light, characterized by the feature that a convex axial screen, reflecting light towards said reflector, is provided on the envelope in front of the source of light, and, a screen, reflecting light towards the inside of the envelope, is provided on the envelope laterally between the source of light and the reflector whereby the dazzling light otherwise reflected towards the side on which vehicles move in the direction opposite to the vehicle provided with the headlights is eliminated. By "convex" is meant convex on the inner side towards the bulb filament or light source.

The lamp of a headlight embodying the invention may have some of the following features:—

1. The envelope of the lamp has a lateral screen comprising a thicker and less transparent portion of the envelope.

2. The envelope of the lamp has parts that are covered with a film which reflects on one side and is substantially opaque on the other.

3. The envelope of the lamp is made of transparent material which is coloured and has two diametrically opposite parts each of which forms a projecting part that is thicker than the adjacent parts and means for fixing the lamp are provided so that the diametrically opposite parts are disposed symmetrically about a vertical plane containing the lamp axis.

4. The envelope of the lamp comprises thicker, less transparent parts and these parts comprise a reflecting surface.

5. The lamp envelope may be of tinted transparent material having differently coloured parts.

6. The envelope of the lamp has two symmetrical parts of different colours, so that the lamp can, when it is mounted on the headlight, give two illuminations of different colours one on each side of the vertical plane

of the headlight.

The illuminating lamp embodying the invention is of a comparatively simple construction and it obviates any displacement of the heterogeneous illuminating beam in relation to a headlight on which the lamp is fixed in a suitable well-defined position.

The invention renders superfluous the installation, on a car, at the side of an ordinary headlamp of a separate lamp which is intended only to illuminate the road with a reduced intensity during the passing of another car.

In order to enable the invention to be better understood an anti-dazzle device will now be described, by way of a non-limitative example, with reference to the accompanying drawings, of which:—

Fig. 1 is a perspective view of a lamp bulb for a headlight;

Fig. 2 is a section on the line XVII—XVII of Fig. 1 of the same lamp;

Fig. 3 is in part an axial longitudinal section of the lamp shown in Fig. 1.

The electric lamp 101 comprises an envelope 102 of transparent material, for example glass, which may be slightly coloured throughout; the envelope 102 has two parts 103 and 104 which are thicker and less transparent than the thin part of the envelope from which they project. These parts 103 and 104 are symmetrical in relation to a vertical plane containing the lamp axis; they are partially covered with opaque coatings 105 and 106 respectively, which reflect back the light from the inside of the envelope. Each of the parts 103 and 104 with their respective coatings 105 and 106 provide a lateral screen on the envelope 102. The part 107, which is situated at the axis of the lamp 101, is slightly concave, viewed from the outer side to provide a convex formation on the inner surface of the lamp facing the lamp filament, and is covered with an opaque coating which reflects the light towards the inside of the envelope. A part 108 of the envelope, which is arranged round the part 107 and extends towards the projecting parts 103, 104, also has an opaque coating which reflects towards the inside of the envelope. The parts 107 and 108 constitute an axial screen on the envelope 102. The lamp 101 is adapted to be fixed in the axial part of a headlight reflector of general parabolic shape, so that the parts 103 and 104 are horizontally opposed; luminous beams, which, after reflection, give an expanse of maximum illumination, which extends in the direction of the axis of the headlight and, consequently, in the direction of the axis of the road followed by the car that is provided with such a headlight, are thus confined between these parts 103 and 104. On the other hand, the lateral illumination is suitably reduced by the projecting parts 103 and 104 and by the opaque coatings 105 and 106 without there being an appreciable loss of light, since the latter is, for a large part, reflected

towards the interior of the envelope 102 by parts 105, 106, 107 and 108.

The reflecting portions 105 and 106 of the screens 103 and 104 can be coloured, whereby the colour of the portion 105 may differ from that of the portion 106; similarly, the transparent substance which forms the projecting parts 103 and 104 may be coloured; the colour of the part 103 being preferably the same as that of the portion 105, and that of the part 104 being preferably the same as the portion 106. On a motor car, each of the two usual headlights may also advantageously be provided with a lamp similar to the lamp 101, but, with the envelopes of these lamps having different colorations, for example one giving a red light and the other giving a green light, effects of contrasting illumination being obtained which are advantageous from the point of visibility. Such an arrangement renders it possible for oncoming traffic to distinguish (according to the different colours chosen for the lamps) the right and left hand side of the vehicle in a more precise manner, especially in the case in which the operation of a headlight should fail.

It is, of course, possible to make modifications and improvements in the device described hereinbefore, within the scope of the invention as claimed in the appended claims. In particular, it is possible to make the axial and lateral screens detachable so that they can be fixed removably to an electric bulb of a headlight.

What we claim is:—

1. An anti-dazzle device for the headlights of vehicles, including a reflector and a lamp comprising an envelope and a source of light, characterized by the feature that a convex axial screen, reflecting light towards said reflector, is provided on the envelope in front of the source of light, and, a screen, reflecting light towards the inside of the envelope, is provided on the envelope laterally between the source of light and the reflector whereby the dazzling light otherwise reflected towards the side on which vehicles move in the direction opposite to the vehicle provided with the headlights is eliminated.

2. An anti-dazzle device according to claim 1 wherein the lateral screen comprises a thicker and less transparent portion of the envelope and an opaque coating partially covers said portion.

3. An anti-dazzle device according to claims 1 or 2 wherein the axial screen comprises a slightly concave opaque coated formation of the outer surface of the envelope and an opaque coating surrounds said concave formation.

4. An anti-dazzle device according to any of the preceding claims characterized by the provision of two symmetrical lateral screens, whereby the headlights are anti-dazzling irrespective of which side vehicles approach the

vehicle provided with said headlights.

- 5 5. An anti-dazzle device according to any of the preceding claims, wherein in a two headlight system the envelopes of the lamps in the two headlights are of different colours.

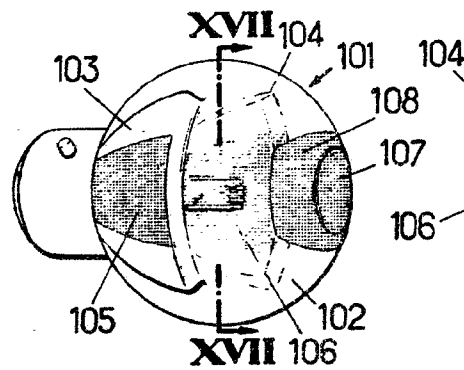
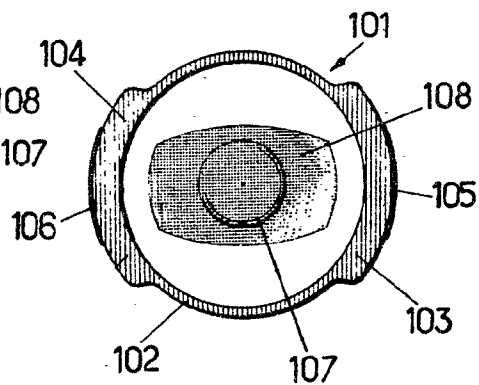
6. An anti-dazzle device according to claim 4, in which the two lateral screens are of different colour one from the other.

7. An anti-dazzle device substantially as hereinbefore described with reference to the 10 accompanying drawings.

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FIG. 1FIG. 2FIG. 3